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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,830	04/19/2001	Shridhar Krishnamurthy	27066.0106	2047

7590 10/27/2004

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EXAMINER

HO, DUC CHI

ART UNIT PAPER NUMBER

2665

DATE MAILED: 10/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,830

Applicant(s)

KRISHNAMURTHY ET AL.

Examiner

Duc C Ho

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/02-03-03</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

1. Claims 5-6, and 9-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 5 recites the content switch system further comprises “ a serving handoff system” in line 2, and “the serving handoff system extracts the data fields from the radio packet data when the radio packet data is transferred from a first serving radio packet node to a second serving radio packet node”, lines 4-8.

However, the “serving handoff system” was not described in the specification.

The same remark applies to claim 9.

Claim 6 recites the content switch system further comprises “ a network handoff system” in line 2, and “the network handoff system extracts the data fields from the radio packet data when the radio packet data is transferred from a first serving radio packet node to a second serving radio packet node”, lines 4-8.

However, the “network handoff system” was not described in the specification.

The same remark applies to claim 10.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2665

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 1, 4, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forslow (US 6,608,832).

Regarding claim 1, Forslow discloses a common access between a mobile communications network and an external network with selectable packet-switched and circuit-switched and circuit-switched services.

a gateway radio packet interface receiving radio packet data from a gateway radio packet node (the mapper 128-fig. 9 inherently includes a radio packet interface for receiving data from the GGSN 116-fig.9);

a content switch system (the mapper 128-fig. 9, col. 15-line 56 to col. 16-line 18) *coupled to the gateway radio packet interface,*

a serving radio packet interface (the mapper 128-fig. 9 inherently includes a serving radio packet interface) coupled to the content switch system, the serving radio packet interface transmitting the radio packet data to a serving radio packet node (a SGSN-fig. 3).

The mapper receives packet data from the GGSN, performs the link layer selection and QOS mapping functions per individual application flows, see col. 14-line 26 to col. 16-line 51. Based on the requested quality of service for a specific application flow, an optimal one of a circuit or packet-switched bearer is selected to carry that specific application flow, see block 64-fig. 4, col. 9-line 38 to col. 10-line 39. In other words, the mapping of requested QOS parameters suggests a function of extracting at least one particular value of QOS parameters in the context of the perceived transport link bandwidth, and utilizing the type of transfer mechanism best suited to carry the type of information to be transferred in that specific application flow.

However, Forslow doesn't disclose expressly (1) extracting one or more predetermined data fields from the radio packet data, and (2) performing one or more predetermined actions based on the extracted data fields.

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ a mechanism including the step of extracting one or more predetermined data fields from the radio packet data, and performing one or more predetermined actions based on the extracted data fields into the system of Forslow. The suggestion/motivation for doing so would have been to provide an execution of logical steps in such a way to explain how data packet is detected before accessing a circuit-switched or a packet-switched bearer, and further processing will base on the extracted data fields carrying information either real time services like voice and video or file transfer, and e-mail.

Therefore, it would have been obvious to combine the described mechanism with Forslow to obtain the invention as specified in claim 1.

Regarding claim 7, this claim has similar limitations as claim 1. Therefore, it is rejected under Frymier-Kay for the same reasons set forth in the rejection of claim 1.

Regarding claim 8, the mapper 128-fig. 9 inherently includes a radio packet interface. The interface comprises an Internet protocol system for receiving data from IP network 56-fig. 6 via the GGSN 54, in which the received radio packet data is extracted from the Internet protocol packet.

Regarding claim 4, the mapper 128-fig. 9 inherently includes an Internet protocol system for receiving data from the GGSN 116-fig.9, in which the received data is capable of being processed and provided to the mapper in the format of tunneling protocol.

5. Claim 2, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forslow, in view of Till Harbaum et al. (Layer 4+ switching with QOS support for RTP and HTTP; Global Telecommunication Conference-Globecom 99- see IDS record Feb. 04, 2003), hereinafter referred to as Harbaum.

Regarding claim 2, Forslow discloses all claimed limitation, except (1) extracting user priority data from the radio packet data, (2) wherein the QOS system allocates bandwidth based upon the user priority data and stores bandwidth allocation data in the radio packet data.

Harbaum discloses (L4Sw) Layer 4+ switching with QOS support for RTP and HTTP. L4Sw is an approach that could be beneficially used at the edge node, in which information extracted from HTTP and other protocol can be used for various applications like flow aggregation, reservation, prioritization, see page

Art Unit: 2665

1956-left column. Further, (1) high priority data or real-time flows may be detected as they leave the high performance, see page 1591-right column (2) allocation and consequently reservation of the appropriate QOS for such a flow, see page 1591-left column.

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ a mechanism such as (L4Sw) Layer 4+ switching with QOS support for RTP and HTTP into the system of Forslow. The suggestion/motivation for doing so would have been to provide bandwidth based upon the priority of data.

Therefore, it would have been obvious to combine Harbaum with Forslow to obtain the invention as specified in claim 2.

Regarding claim 11, this claim has similar limitations as claim 2. Therefore, it is rejected under Forslow for the same reasons set forth in the rejection of claim 2.

6. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kannas et al.(US 6,683,853).

Regarding claim 13, Kannas discloses dynamic upgrade of quality of service in a packet switched network. In Kannas during a UMTS packet session, parameters associated with a flow of packet data such as access point name, QOS, PDP address, etc. are used, col. 4, lines 45. Consequently, a PDP context activation QOS field in a PDP Context Activator Request will be activated for requesting a quality level of service.

receiving radio packet data (SGSN 20-fig. 6 receiving a PDP Context Activator Request (QOS1) at step 80, see col. 9-line 45 to col. 10-line 60);

Art Unit: 2665

determining whether a trigger event has occurred (the SGSN 20-fig. 6 inherently determines that a request event has occurred. It sends a RAB 82 to the RNC18, col. 9, lines 53-55);

performing a predetermined function using the one or more data fields to generate one or more second data fields; storing the second data fields in the radio packet data to create modified radio packet data (a PDP context request message 148-fig. 6 is forwarded to the GGSN 24 to request an allocation of resources for the first QOS. Because of the congestion, a second QOS is assigned instead, see col. 9-line 62 to col. 10-line 5. In Kannas the step 154-fig. 6, col. 10, lines 5-18, inherently includes a step storing a value in the QOS-2 field for communication with the SGSN 20);

transmitting the modified radio packet data to a serving radio packet node (the PDP Context Response QOS2-154 is transmitted from the GGSN 24 to the SGSN 20, see col. 10, lines 6-30).

Kannas, however, doesn't disclose expressly a step of extracting one or more first data fields from the radio packet if the trigger event has occurred.

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ a mechanism including a step of extracting one or more data fields into the system of Forslow. The suggestion/motivation for doing so would have been to provide an execution of a logical step in such a way to explain how an allocation of resources is carried.

Therefore, it would have been obvious to combine an extraction step with Kannas to obtain the invention as specified in claim 13.

Regarding claim 14, the SGSN 20-fig. 6 receives a Create PDP Context Response (QOS2) –154 from the GSGN 24.

Art Unit: 2665

Regarding 15, since the external network 12 is the Internet, see col. 3-line 42. The core network 6 is capable of receiving a packet data within an Internet protocol packet.

Regarding claim 16, the PDP Context Activator Request 80-fig. 6 is a trigger event comprising activation of a packet data protocol channel.

Regarding claim 17, the PDP Context Activator Request 80-fig. 6 is a trigger event comprising activation of a first quality of service.

Regarding claim 18, in Kannas, the PDP Context Activator Request 80-fig. 6 is a trigger event comprising activation of a first quality of service. The activation of the first QOS is equivalent to an execution of a function allocating bandwidth corresponding to the traffic level at QOS-1.

Regarding claim 19, in Kannas step 154-fig. 6, col. 10, lines 5-18, inherently includes a step storing a value in the QOS-2 field for communication with the SGSN 20.

Regarding claim 20, this claim has similar limitations as claim 17. Therefore, it is rejected under Kannas for the same reasons set forth in the rejection of claim 17.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Einola et al. (US 6,438,370) ; Hassan et al. (US 6,707,813); Balazinski et al. (US 6,711,143) ; Chen et al. (US 6,654,610) ; Ludwig (US 6,256,498) are cited to show system and method for wireless packet data content switch, which is considered pertinent to the claimed invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (571)

Art Unit: 2665

272-3147. The examiner can normally be reached on Monday through Friday from 7:00 am to 3:30 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner



Duc Ho

10-20-04